## REMARKS

**[01] Smith**

**[02]** The Office Action rejects Claims 8, 10, 11, and 15 for anticipation by U.S. Patent Application Publication No. 2002/0001803 by Smith and Gordon, "Smith" herein. This rejection is traversed.

**[03]** The rejected claims all require an agitation axis that is more orthogonal to than along a centrifugal force. In Smith, Fig. 3, the centrifugal force is shown at 28, while the agitation axis is *x*. Clearly, agitation axis x is along centrifugal force 28, and is not more orthogonal than along. Accordingly, Smith does not anticipate these claims.

**[04]** Item 4 of the Office Action states that Smith 28 refers to a "axis of centrifugation", but this is contrary to Smith, paragraph 53, "direction of applied centrifugal force 28". (Admittedly, this passage refers to the embodiment of Fig. 5, instead of the embodiment of Fig. 3, but the common reference numbers refer to the same item.) Item 4 states that Smith A refers to an "axis of agitation", but this is contrary to Smith, paragraph 50 "oblique angle A", which indicates "A" refers to an angle, and not an axis. Item 4 states that Smith "Y" refers to an "agitation cycle", whereas Smith, paragraph 50, indicates the Y is an axis, and not a "cycle". It can be inferred that Y is the centrifuge axis or an axis parallel to the centrifuge axis. When Fig. 3 is interpreted as intended, it is clear that agitation axis x is not more orthogonal than along centrifugal force 28. Accordingly, Smith does not anticipate the present invention.

**[05] Robbins**

**[06]** Item 6 of the Office Action rejects Claim 8 as being obvious given U.S. Patent No. 5,380,662 to Robbins et al., "Robbins" herein. This rejection is traversed.

**[07]** Robbins discloses an apparatus that provides a rotisserie action on sample tubes to promote uniform heating within an incorporating oven. Each tube can contain a sample in the form of a blot of nucleic acid on a membrane and a probe fluid. The apparatus provides a single axis of rotation that provides for both rotation and agitation. There is no axis of agitation distinct from the rotation axis involved in the rotisserie motion.

**[08]** Item 7 of the Office Action rejects Applicant's assertion that Robbins discloses only a single axis of rotation used for both rotation and agitation. To this end, item 7 asserts "Robbins clearly teaches "offset" agitation". This assertion is problematic for several reasons: 1) Robbins does not use the phrase "offset agitation" so it is hard to see how Robbins can "clearly" teach it; 2) the Office Action does not explain what "offset agitation" is intended to convey; and 3) the Office Action does not explain how the existence of "offset agitation" would conflict with Applicant's assertion that the axis of rotation is also the agitation axis. In any event, Robbins discloses only one form of motion, and that is the rotation about the drive shaft. If the Examiner thinks there is another axis of rotation other than the rotissierie rotation, Applicant request her to indicate where the axis of that motion is.

**[09]** Item 7 appears to find ""offset agitation" in Robbins Fig. 4, stating that the "bottle is agitated from left to right as indicated by the fluid level within the bottle." Applicant wonders if the Examiner might be the victim of an optical illusion. As the foregoing copy of Fig. 4 indicates, the fluid level is horizontal, indicating no motion whatsoever. Of course, the fluid level might appear tilted because the bottle containing it is tilted, but as the green dashed rectangle demonstrates, the liquid level is not tilted.

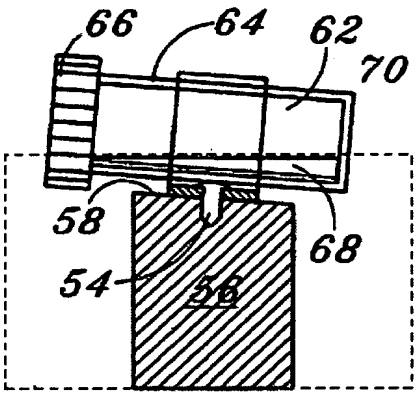



*Fig. 4*

**[10]**

**[11]** In addition to the fact that Fig. 4 does not show a tilted liquid level, Fig. 4 does not indicate motion, e.g., by showing a ghost bottle in a different position or showing two-sided arrows. There is nothing in Fig. 4 that indicates any type of motion. It should be noted Claim 8 rerquires an agitation axis; if the agitation motion were left to right, there would be no such axis.

**[12]** Item 7 also relies on Robbins, Col. 7, lines 54-62 to show an "agitation axis". This passage teaches that the degree of agitation can be affected by changing the eccentricity with which the wheels are mounted. This supports the idea that agitation is effected by rotating the wheels, not by some independent motion. If there were a back-and-forth agitation, then agitation could be controlled by changing the rate of that motion. Robbins does not teach this approach because Robbins does not employ a back and forth motion to effect agitation.

**[13]** Applicant argues that Robbins does not teach the use of centrifugal force greater than 1G, as required by the claims. The Office Action argues that the 1G limitation is inherent. This is false. Even at 1 revolution per minute, there will be sloshing. Furethermore, the term "rotissierie" suggests centrifugal forces much less than 1G. Applicant requests that the Examiner provide authority for the proposition that at least 1G centrifugal force is required for sloshing to occur.

**[14]** Regarding the rejection of Claim 14, this rejection is traversed as it is based on the same misreading of Robbins described above.

**[15]** Double-Patenting Rejection

**[16]** In view of the amendments to the claims, the double-patenting rejection can no longer be maintained and should be withdrawn. In particular, the "more orthogonal than along" limitation is not obvious given the Smith application. Accordingly, Applicant no longer plans to file a terminal disclaimer.

**[17]** Item 7 mischaracterizes Robbins, Fig. 4. There is no left-right agitation. The fluid level is oblique relative to the bottle because the bottle is tilted, not because the bottle is being shifted left and right. The surface of the fluid is horizontal, not slanted. If there were a left-right agitation, the liquid would not be horizontal. Also, if the agitation were left-right, then there would be not axis of agitation that the bottle is rotating about, as required by the claims. The only agitation occurs as a result of the tilt of the bottles relative to the rotisserie axis. What would the eccentricity of mounting the wheels have to do with agitation is agitation was due to shaking back and forth.

**[18]** Claim 8 requires introducing sample liquid into a reaction cell. Robbins discloses a probe liquid, but not a sample liquid. In this context, the probe and sample are functional opposites so the claimed sample liquid cannot read on Robbins probe liquid.

**[19]** Claim 8 requires the reaction cell to be partially filled with air. Robbins does not disclose any air in the cell. Despite assertions to the contrary, there are no indications in FIGS. 3 and 4 of Robbins of any air in the tube.

**[20]** Claim 8 requires a reaction cell having a hybridization array. Robbins discloses a tube with a sample nucleic acid blot on a membrane. The blot is not an array, so Robbins does not disclose the array recited in Claim 8.

**[21]** Claim 8 requires centrifuging a sample liquid so that centrifugal forces in excess of 1G urge sample liquid against a probe array. Robbins does not disclose forces in excess of 1G. Robbins does disclose a rotisserie motion, but does not indicate the centrifugal force generated thereby. However, it is not inherent in a rotation motion that it produces centrifugal forces in excess of 1G. The term "rotisserie" suggests a relatively slow rotation incapable of producing centrifugal forces in excess of 1G. Robbins does not disclose that the rotisserie motion urges sample fluid or probe fluid against an array or a blot.

**[22]** Claim 8 requires agitating a sample fluid so that it moves relative to a probe array. Again, Robbins does not disclose a sample fluid or a probe array.

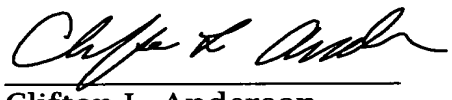
**[23]** Accordingly, Claim 8 includes several limitations that are not disclosed, inherent, or even suggested by Robbins. Accordingly, the rejection of Claim 8 for obviousness in view of Robbins should be withdrawn. These same arguments apply to the rejections of dependent claims 10-13 and 15.

**[24]** In view of the amendments, the double-patenting rejections should be reconsidered. Neither of the applications cited 09/729.169 nor 09/900,294 discloses or suggests the orthogonality limitation or the 1G limitation. In fact, '169 does not even appear pertinent (is this the right serial number?). The '294 application does not use centrifugal force to urge fluid against an array of hybridization probes and does not use an agitation axis orthogonal to the centrifugal force for mixing. Accordingly, the double-patenting rejections should be withdrawn.

**[25]** CONCLUSION

The claims have been amended to overcome the rejections for anticipation, obviousness, and double patenting. Accordingly, it is respectfully submitted that the application is in condition for allowance, which allowance is respectfully requested.

Respectfully submitted



Clifton L. Anderson
Reg. No. 30,989
(408) 245-0820